



US 20140324745A1

(19) **United States**

(12) **Patent Application Publication**

Leppänen et al.

(10) **Pub. No.: US 2014/0324745 A1**

(43) **Pub. Date: Oct. 30, 2014**

(54) **METHOD, AN APPARATUS AND A COMPUTER SOFTWARE FOR CONTEXT RECOGNITION**

(75) Inventors: **Jussi Leppänen**, Tampere (FI); **Antti Eronen**, Tampere (FI); **Jussi Collin**, Viiala (FI)

(73) Assignee: **NOKIA CORPORATION**, Espoo (FI)

(21) Appl. No.: **14/365,937**

(22) PCT Filed: **Dec. 21, 2011**

(86) PCT No.: **PCT/FI2011/051145**

§ 371 (c)(1),  
(2), (4) Date: **Jun. 30, 2014**

**Publication Classification**

(51) **Int. Cl.**  
**G06N 99/00** (2006.01)

(52) **U.S. Cl.**

CPC ..... **G06N 99/005** (2013.01)  
USPC ..... **706/12**

(57) **ABSTRACT**

Various embodiments relate to a context recognition. Classification of a context is performed by using features received from at least one sensor of a client device, and model parameters being defined by a training data to output a result and a likelihood of the context. The result is shown to the user, who provides feedback regarding the result. The features, result, likelihood, and the feedback are stored, whereby the model parameters are adapted using the features, result, likelihood and the feedback to obtain adapted model parameters. The result, likelihood and the feedback can also be used for performing confidence estimation to obtain a confidence value. The confidence value can then be used for performing an action, e.g. adding a new sensor, adding a new feature, changing a device profile, launching an application.

